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AMSAT NEWS SERVICE
ANS-059

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://amsat.org publishes news of Amateur Radio in space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to ans-editor at amsat dot org.

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ANS-059 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 059.01
>From AMSAT HQ 712 H Street NE Suite 1653, Washington, DC 20002
February 28, 2021
To All RADIO AMATEURS
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Tausat CubeSat with U/V FM Transponder Ready for Deployment from ISS

Tausat, a 3U Cubesat is currently aboard the ISS and is scheduled for deployment in February. The CubeSat was built by the Herzliya Science Center in Israel. It carries two payloads, one being a university student research project that will examine physical space radiation. The experiment will be active for about three months. The second payload is an Amateur Radio U/V FM transponder. The UHF beacon will transmit 9k6 BPSK AX25 telemetry on a downlink frequency of 436.400 MHz. Watch for upcoming details.

[ANS thanks the IARU for the above information.]

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AMSAT-DL Operators Track Mars Probe

Members of the German AMSAT organization, AMSAT-DL, in cooperation with the Sternwarte Bochum Institute in Bochum, Nordrhein-Westfalen, Germany, have been using the Institute's 20-meter (65.6 foot) diameter dish antenna to listen directly to signals from probes in Mars orbit.

Signals have been copied from Tianwen-1, the Chinese spacecraft currently in Mars orbit, and from EMM/Hope, the Emirates Mars Mission, which is also orbiting Mars. Both spacecraft are transmitting in the 8.4 GHz band.

Recordings of the signals can be heard on YouTube at https://www.youtube.com/watch?v=413DdMua8ec&feature=emb_imp_woyt and regular updates can be seen by following @amsatdl on Twitter.

The Bochum Observatory dish was constructed in 1965 as part of the ground support network for the Apollo missions. Weighing in at 140 tons, it is protected from weather by an air dome 40 meters (131 feet) in height. In 2003, amateurs helped renovate some of the equipment, adding phase-locked receivers in the 2.3 GHz, 5.8 GHz, and 10.4 GHz amateur bands, as well as an 8.4 GHz receiver. There is also an S-band, 2.4 GHz amateur transmitter running 250 Watts PEP.

In 2006, the dish was used to copy signals from the Voyager 1 spacecraft at a distance of nearly 15 billion kilometers. Since 2009, AMSAT-DL operators have used the dish regularly to copy NASA/NOAA weather satellites. Also in 2009, the dish was used to copy planetary radar echoes bounced off the planet Venus. Since 2001, the dish has copied signals from at least a dozen different deep space probes, including Tianwen-1 and EMM/Hope.

In the summer of 2002, AMSAT Germany officially began planning and preparing to send its own space probe to the red planet. It is supposed to fly around Mars as a radio relay, take pictures, carry out scientific experiments and deposit a payload on the surface of Mars. The goal is to create a probe that can be received on amateur radio frequencies using a 2 to 3 meter parabolic antenna. Images and data would be displayed directly on your own computer with the appropriate software.

This ambitious plan is a long-term goal of AMSAT-DL, and the work of amateurs tracking the current Mars orbiters at Bochum Institute provides valuable experience toward reaching this goal.

[ANS thanks AMSAT-DL for the above information]

AMSAT-NA TLE Distribution for February 25, 2021

Ray Hoad, WA5QGD released updated TLE data on February 25, 2021 and is available for download at: https://mailman.amsat.org/hyperkitty/list/keps(a)amsat.org/.

Also noted by Ray is that the following satellite has decayed from orbit and has been removed from this week's AMSAT-NA TLE Distribution:

PWSat 2 - NORAD Cat ID 43814 (Decayed 2-23-2021 per Space-Track).

For newcomers wondering about TLE's, they are two-line element set (TLE) is a data format encoding a list of orbital elements of an Earth-orbiting object for a given point in time, the epoch. Using a suitable prediction formula, the state (position and velocity) at any point in the past or future can be estimated to some accuracy. For more information, see the Wikipedia article at: https://en.wikipedia.org/wiki/Two-line_element_set

[ANS thanks Ray Hoad, WA5QGD for the above information.]

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Need new satellite antennas? Purchase Arrows, Alaskan Arrows,
and M2 LEO-Packs from the AMSAT Store. When you purchase through
AMSAT, a portion of the proceeds goes towards

Keeping Amateur Radio in Space.
https://amsat.org/product-category/hardware/

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03/10 – Trenton, New Jersey
03/11 – Clearwater, Florida
03/13 – QSO TODAY 2021 Virtual Convention
03/16 – Palm Springs, CA
03/20 – Bonham, Texas
04/01 – Orem, Utah
06/15 – East Massachusetts

More information at: http://www.work-sat.com.

[ANS thanks Clint Bradford, K6LCS for the above information.]

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Telebridge via NA7V
The ISS callsign is presently scheduled to be NA1SS.
The downlink frequency is presently scheduled to be 145.800 MHz.
The scheduled astronaut is Mike Hopkins, KF5LJG.
Contact is go for Wednesday, March 3, 2021 at 13:09:23 UTC. (27 deg)
Watch for live stream at: https://m.facebook.com/PeaceCorpsMoldova/
and https://m.facebook.com/UTMoldova/.

+ Completed Contacts

- John F Kennedy High School, Denver, CO
Multi-point telebridge via NA7V
The ISS callsign was NA1SS.
The downlink frequency was 145.800 MHz.
The astronaut was Mike Hopkins, KF5LJG.
Contact was successful on Wednesday, February 24, 2021 at 18:41:13 UTC.

- Bishop Guertin HS, Nashua, NH
Multi-point telebridge via AB1OC
The ISS callsign was NA1SS.
The downlink frequency was 145.800 MHz.
The scheduled astronaut is Shannon Walker, KD5DXB
Contact was successful on Friday, February 19, 2021 at 17:56:36 UTC.

- Estes Park Elementary School, Estes Park, CO
Multi-point telebridge via NØFH
The ISS callsign was NA1SS.
The downlink frequency was 145.800 MHz.
The astronaut was Shannon Walker KD5DXB.
Contact was successful on Friday, February 26, 2021 at 17:09 UTC.

+ The latest information on the operation mode can be found at
https://www.ariss.org/current-status-of-iss-stations.html

[ANS thanks Charlie Sufana, AJ9N for the above information.]

Satellite Shorts from All Over

+ Inside Sunsat – A Look Back at the First-Ever South African Satellite

The South African satellite Sunsat was launched aboard a Delta II rocket from Vandenberg Air Base on February 23, 1999. The Sunsat mission introduced the era of space exploration in South Africa, and even on the entire continent. The satellite was constructed by post-graduate engineering students at Stellenbosch University. Niki Steenkamp, a member of the Tech team with Dragonfly Aerospace, was involved in the Sunsat program. He recently shared how the university project grew to a full-fledged mission, proving to be a unique experience for future space engineers and pioneered South African space exploration. Read the story at:
https://dragonflyaerospace.com/inside-sunsat-the-first-ever-south-african-satellite/

[ANS thanks Dragonfly Aerospace for the above information.]

+ Media Hit: JAXA to Deploy Mauritian satellite MIR-SAT1
The satellite was designed by a team of Mauritian Engineers and an experienced Radio Amateur from the Mauritius Amateur Radio Society in collaboration with experts from AAC-Clyde Space UK. Read the full article at:
https://www.broadcastprome.com/news/satellite/jaxa-to-deploy-mauritian-satellite-mir-sat1/

[ANS thanks Broadcast Pro Middle East for the above information.]

Not an AMSAT member? Join now at https://launch.amsat.org/

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. President's Club donations may be made at https://tinyurl.com/ANS-PresClub.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half-time status shall be eligible for the student rate for a maximum of six post-secondary years in this status. Contact info at the amsat dot org for additional student membership information.

73,
This week's ANS Editor,
Frank Karnauskas, N1UW
n1uw at amsat dot org

Sent via AMSAT-BB(a)amsat.org. AMSAT-NA makes this open forum available to all interested persons worldwide without requiring membership. Opinions expressed are solely those of the author and do not reflect the official views of AMSAT-NA.

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